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EXAMINER

CHUNG, JI YONG DAVID

ART UNIT	PAPER NUMBER
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2143

DATE MAILED: 04/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/034,260	HUBBARD, THOMAS	
	Examiner	Art Unit	
	Ji-Yong D. Chung	2143	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Response to Remarks

1. Applicant's arguments and amendments filed on February 3, 2006 have been carefully considered but they are not deemed fully persuasive, in light of new grounds of rejection.

35 U. S. C. 112 rejection, cited in the previous action, is withdrawn.

The Office acknowledges the cancellation of claim 5.

While the applicant's amendments have improved the clarity of the claims and have advanced the prosecution, there are a number of issues that the Office is obligated to raise. These issues have been phrased in terms of "rejections," as provided in the remainder of the instant Office action. In this section, the applicant's arguments are addressed.

With respect to independent claim 1, the applicant has amended the claim so that it includes "downloading to the browser a web page containing remote control user-interface elements, wherein the remote-control user-interface elements include virtual keyboard keys." The applicant's position is that, in the prior Office action, the keyboard keys of the master controller have been viewed as virtual keys to the slave server, thus, the amendment now frees claim 1 from being read on the cited prior art reference, Muta (Pat. No. 6,286,003).

The Office's response is that the ground of rejection has been changed in the instant Office action, so that now components of the master applet maps to "remote control user-interface elements, wherein the remote-control user-interface elements include virtual keyboard keys." The Office notes, however, that the new ground of rejection can be avoided, by further amendments, as indicated below in Section 2 ("Comments on Future Amendments").

The applicant indicates, on page 10 of Remarks, that Muta does not teach or suggest that a user activating at least one of the virtual keyboard keys causes a message to be sent to the target computer, wherein the message specifies at least one keyboard event to be simulated on the target computer, wherein the at least one keyboard event to be simulated is based upon which the virtual keyboard key was activated."

The applicant's attention is directed to Fig. 8 and Fig. 18. When a user presses on a key at the controller, the pressed key causes the activation of software routines ("user interface elements") in the Master Applet. The software components generate a message containing an event (see item 309 in Fig. 8) to be sent to the slave daemon residing on the target server. The daemon relays the event to the Window system on the target computer, as if the event had occurred in its local computing environment. That is, the event is "simulated on the target computer."

Fig. 8 addresses general *user-interface events* from the controller, but it does not specifically show that *keyboard events* are involved. However, Fig. 18 shows that keys are part of the controller. Thus, Fig. 18 shows "Press Key", "Release Key," etc. Fig. 18 clearly indicates that the system supports generation of keyboard events.

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In summary, while Muta does not spell out the steps of claim 1, the system that is illustrated by Muta executes the steps that have been cited in claim 1.

With respect to claim 13, “mark up language” portion of claim 13 limitations are dealt with in the sections below.

In the course of discussion, in Remarks, the applicant has mentioned that the master server displays the slave server’s GUI display screen so that the end user can interact with the slave server’s GUI display. The applicant notes, “This requires relatively large amount of video data to be transmitted between the slave server and the master controller,” pointing out that the instant invention does not perform the same function. However, the applicant’s reliance on the feature to distinguish the instant invention from the prior art references is misguided for a few reasons.

Firstly, even if the difference that the applicant points out were correct, the difference does not help the applicant, because the difference cannot be claimed. An exclusionary limitation (i.e., negative limitation that excludes certain feature) is unsupported by the specification. The reason why the Office issued new matter rejection in the second Office action was to point out the preceding.

Secondly, the feature of transmitting drawing commands from the slave server to the master applet (in order to let the master applet know what the target computer screen looks like) is an *improvement* and not a drawback, to remote controlling systems. To illustrate this, consider one of the most simple “remote controlling” program that is known: TELNET. A telnet client

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communicates with a telnet server and sends “remote controlling” commands to the server. The server, in response to the commands, transmits outputs to the telnet client screen; this helps a user interact with the server, because the user *can see* the effect of issuing commands. Similarly, for operating systems that make heavy use of GUI, transmission of drawing commands from the server to the controller program lets the user know of the effects of issuing controlling commands to the server. In GUI environment, the feature *maybe viewed as an extension* of the telnet server outputting responses the telnet client screen. Transmitting information from the server to the client, to let the client know of the screen appearance, is not a liability, but a necessity.

Thirdly, the applicant mischaracterizes Muta. The applicant states that Muta “requires relatively large amount of video data to be transmitted between the slave server and the master controller.” Contrary to the applicant’s position, in Muta’s system, large amount of video data is not exchanged, because only drawing commands (which were executed in the server side) is issued to the controller. There is no need to transmit large amount of video data.

With respect to claim 17, most of applicant’s arguments are similar in nature to those listed above. The WP-encoding is addressed below.

Comments on the Future Amendments

2. The Office is under the impression that, by the amendment, the applicant has intended to claim “a virtual keyboard keys” whose *graphical representation on a display* appears as a keyboard, rather than to claim just a user interface element. Note that, in general, a user

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interface need not be a graphical user interface (GUI). For example, Muta shows a software component that generates key codes (“virtual keyboard keys”), and it operates as a “virtual keyboard” (in the sense that it partly performs functions of hardware keyboard). However, Muta does not literally show a graphical keyboard on a display.

If the Office is correct as to it’s the applicant’s intention regarding claim 1, then, the applicant is encouraged to express the graphical nature of the virtual keyboard in the claims, through further amendments, but in more precise terms.

While it is arguable whether “virtual keyboard” is term of the art and whether the term implies graphical software implementation of a keyboard, and therefore, the Office heavily favors the applicant to incorporate limitations that explicitly describe the graphical nature of the virtual keyboard.

3, The Office has conducted additional searches on “virtual keyboard” and similar terms. The Office has discovered many references, but none of them shows *browser-ized* version of the virtual keyboard. See for example, Yogaratnam (Pat No. 6,677,933). See also Astala et al. (Pub. No 2002/0002635), cited in prior action.

Of the references listed above and listed in the prior Office actions, references such as Astala or Yogaratnam likely represent the last substantive obstacle against allowability of the instant application. To be more specific, should the applicant amend the independent claims in accordance with the discussion in section 2 or provide convincing rebuttal against above stated grounds of rejection, the sole remaining issue will be on 35 U. S. C. 103(a): the question is

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whether it would have been obvious to place Astala's (or Yogaratnam's) software keyboard on Muta's browser-based remote control system. Whether such combination is obvious or not would then hinge on the degree of particularity with which the *browser-ized* virtual keyboard is cited in claim limitations. Note that the strength of the applicant's argument against the Office's motivation statement (i.e., the reasons for combining Muta and Yogaratnam) will also depend on the same.

Note that the issues involving browser version of the virtual keyboard was presented to the applicant in the first Office action, in the passages describing the rejection of claim 5.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. **Claims 1-4, 8, 13, 20, 22, 23, 27 and 28** are rejected under 35 U.S.C. 102(e) as being anticipated by Muta.

With regard to **claim 1**, Muta discloses a method of allowing a target computer to be remotely controlled through a browser, the method comprising:

accepting a connection from the browser [the feature is inherent in any server-browser system, in which the browser connects to a web server and obtains a webpage from it. See browser 213 and a web server 241, in Fig. 3];

downloading to the browser a web page containing remote-control user-interface elements [See lines 13-22, column 8. HTML file is accessed],

wherein the remote-control user-interface include virtual keyboard keys [See Fig. 8. Master applet is the “remote-control user-interface.” It includes means for generating event data shown in Fig. 8. Means for generating key codes shown in Fig 8 is the “virtual keyboard keys.”], *wherein a user activating at least one of the virtual keyboard keys cause a message to be sent to the target computer* [As shown in Fig. 8, events (which include key codes) are sent to the slave computer (“target computer”)], *wherein the message specifies at least one keyboard event to be simulated on the target computer* [Key codes in Fig. 18 specifies the keyboard event to be simulated on the slave server], *wherein the at least one keyboard event to be simulated is based upon which of the virtual keyboard keys was activated* [The generation of key codes depends on which of the “virtual keyboard keys” is activated. Here, the activation of key is interpreted as generation of a local key code];

receiving the message that specifies the at least one keyboard event to be simulated on the target computer [See lines 6-61, column 9. The operator controls the slave server via an applet; keyboard events are simulated. See Fig. 18]; and

simulating the at least one keyboard event specified by the the received message [See from line 63, column 9 to line 2 column 10, in conjunction with the lines 6-52, column 9].

With regard to **claim 2**, Muta *shows the accepted connection is an HTTP connection from a wireless-access gateway*. See lines 13-22, column 8 for HTTP connection. See from line 61, column 6 to line 24, column 7 for portable phone (“wireless device”). A wireless access gateway is inherent for the wireless system in which the wireless device connects to a network.

With regard to **claim 3**, Muta does not directly show that *browser is a wireless-access browser*. However, Muta does show a browser and indicates it may run on wireless device such “palmtop PC” or “a portable telephone.” See the above discussion on claim 2. The browser, which Muta shows, on the portable telephone would be a “wireless-access browser.” See from line 61, column 6 to line 24, column 7.

With regard to **claim 4** for its limitation, *the wireless-access browser and the target computer communicate through a wireless-access gateway*, see the discussion of claim 2 and 3, which contain all of the limitations of claim 4.

With regard to **claim 8**, Muta shows that *the accepting, the downloading, the receiving, and the simulating are each performed by the target computer*. See lines 19-50, column 10. The passages describe the process of “downloading” (having information sent to the receiving computer), “receiving”, and “simulating” (how the events are given to the event buffer).

With respect to **claim 13**, all of the limitations except the following have been discussed with respect to claims 1-4 and 8: *wireless language select elements*. The term replaces user

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interface elements. Note that user interface elements transmitted over the wireless media is understood as “wireless language select” elements. “Keyboard event server” in claim 13 is shown in Fig. 8.

Claim 20 is a software product version of claim 4. It is rejected based on the same rationale as claim 4.

Claim 22, 23, and 27 substantively incorporate the subset of limitations in claims 1-4, 8 and 13, but in apparatus form rather than in method form. The reasons for the rejections of claims 1-4, 8, and 13 apply to claims 22, 23 and 27. Therefore, claims 22, 23, and 27 are rejected for substantially the same reasons.

With respect to **claim 28**, Muta shows that *the received message comprises at least one mnemonic corresponding to the at least one simulated keyboard event*. See Fig. 17. Whatever is transmitted from the server is a representation of the keyboard event, thus a mnemonic (e.g., Event.MOUSE_MOVE, Fig. 17. The transmitted event is received, of course, at the receiver).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. **Claims 6, 7, 9-12, 14-19, 21, 25 and 26** are rejected under 35 U.S.C. 103(a) as being unpatentable over Muta.

With respect to **claim 6**, Muta does not show that *the remote-control user-interface elements comprise hypertext markup language buttons*. However, many Internet web pages contain HTML buttons and Muta uses an HTML page.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use HTML buttons to implement a few of user interface functions, because buttons are widely used for web page user interfaces to facilitate client controls.

With respect to **claim 7**, Muta does not show that *the remote-control user-interface elements comprise wireless markup language select elements*. However, in Muta's embodiment that involved portable telephone, the installed software would logically use wireless markup language (WML) – it is the standardized language to handle wireless devices. Note that many Internet web pages show the use of select element (e.g., buttons); this limitation has been discussed with respect to claim 6.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use WML select elements, because WML is the standard markup language for wireless devices such as a portable telephone.

With respect to **claim 9**, Muta does *not show that received message is contained in a query portion of an HTTP request*. However, Muta shows applets on the master server and the slave server. Applets generally makes requests to CGI programs on servers over HTTP protocol. Such requests routinely contain “query” components that encode information.

It would have been obvious to one of ordinary skill in the art at the time of the invention to piggyback messages on a query portion of HTTP request, because Muta uses applets, which are used to make HTTP requests to CGI programs. HTTP requests to CGI programs generally contain query portions that piggyback various messages.

With respect to **claim 10**, Muta shows *that the at least one keyboard event comprises sending an operating system key event to an active application on the target computer*, except that Muta does not show the active application. See lines 6-52, on column 9. Applet controls the slave server; keyboard events are simulated. See Fig. 18.

However, any active application, which is under input focus, would be controlled.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use Muta’s invention to control the target OS and therefore any application that can be invoked within the same operating environment, because Muta’s invention was designed to control the overall system: one would thus control any application which runs on the “slave server” (i.e., target computer). See the summary of the invention in Muta.

With respect to **claim 11**, Muta does not show *simulating the at least one keyboard event comprises simulating a press-and-hold operation for at least a first key while simulating a press*

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and then a release of at least a second key. Muta shows keyboard in lines 33-46, column 9.

While Muta does not show the specific key combination event described in claim 11's limitation, Muta speaks of events in lines 9-55, column 10. In the context of Windows NT operating system (see lines 35-50, column 7), the events are Windows events; Windows events include mouse events and keyboard events and can express all required key combination events.

It would have been obvious to one of ordinary skill in the art at the time of the invention to implement any key combination presses in order to control the slave server, including the ones described in the limitation, because the Muta's invention operates in tandem with the operating system event handler (e.g., Windows NT operating system event handlers. See lines 35-50, column 7 for the list of operating systems in Muta's invention). Windows operating system event handler *is designed* to translate any keyboard and mouse inputs.

With respect to **claim 12**, Muta does not *show that the received message is part of an HTTP POST*. However, POST is a command in HTTP protocol.

It would have been obvious to one of ordinary skill in the art to use either POST or GET, because they are command in HTTP protocol, designed for sending messages (i.e., Using something in accordance with its designed purpose is obvious).

Claims 14-16 incorporate the limitations of claims 7, 9 and 12, but they depend on independent claim 13 rather than on independent claim 1. Nonetheless, the reasons for the rejections of claims 7, 9, and 12 apply to claims 14-16. Therefore, claims 14-16 are rejected for substantially the same reasons.

Claims 17 and 18 delve into one additional element that has not been described in claims 1-16. Specifically, they describe wireless-protocol encoding and decoding of HTTP response and request. Muta indicates that Muta's invention maybe on a portable phone, a wireless device.

It would have been obvious to one of ordinary skill in the art at the time of the invention to overlay HTTP protocol over a wireless-protocol (that is provide, encoding and decoding for WP), because the use of wireless phone would necessitates the use of wireless protocol-encoding/decoding in addition to HTTP protocol (or some modified version of it). Muta shows the use of wireless phone from line 61, column 6 to line 4, column 7.

Claims 19 and 21 are software product versions of claim 18 and 16, respectively.

Claims 19 and 21 are rejected based on the same rationale as claim 18 and 16.

Claims 24 and 26 incorporate all the limitations of claims 7 and 11, but in apparatus form rather than in method form. The reasons for the rejections of claims 7 and 11 apply to claims 24 and 26. Therefore, claims 24 and 26 are rejected for substantially the same reasons.

With regard to **claim 25**, its limitation on wireless-protocol encoding has been discussed with respect to claims 17 and 18.

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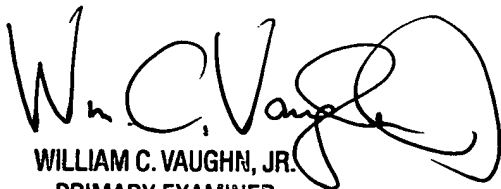
Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ji-Yong D. Chung whose telephone number is (571) 272-7988. The examiner can normally be reached on Monday-Friday 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wiley can be reached on (571) 272-3923. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ji-Yong D. Chung
Patent Examiner
Art Unit: 2143


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PRIMARY EXAMINER